REMARKS

The office action of March 4, 2009, has been carefully considered.

It is noted that claim 1 is rejected under 35 U.S.C. 103(a) over JP 11-279730 to Masaaki in view of GB 2050432 to Pedley and the patent to Sander et al.

In view of the Examiner's rejections of the claims, applicant has canceled claims 2-5 and amended claim 1.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the methods disclosed in the references.

Turning now to the references and particularly to the reference to Masaaki, it can be seen that this patent discloses a hot dip galvanizing method restraining the oxidation of zinc.

The reference to Pedley discloses the use of liquefied gas in hot dip metal coating.

The patent to Sander et al. discloses a method for controlling metal coatings on wire or metal strip emerging from metal baths.

The Examiner combined these references in determining that claim 1 would be unpatentable over such a combination. Applicant respectfully submits that none of these references, nor their combination, teach a method for suppressing the evaporation of zinc in which a gas mixture is present in the furnace snout above the metal bath as an isolating gas, wherein the gas mixture is argon with admixtures of butane and/or propane, as in the presently claimed invention. The use of argon in combination with butane and/or propane is very inexpensive and also effectively prevents the sublimation and vaporization of zinc. The references do not teach using the gas as defined in the claim now on file. Masaaki is comparable to the present invention in that inert gas is also used, such as Xe, Rn, etc. Xe is very expensive and not economical to use. RN is a strongly radioactive gas whose use has environmental and health drawbacks so that it cannot be used. Sander uses propane or butane as means for preventing oxidation of the metal bath. Pedley also is directed to preventing oxidation of the metal bath. The method of Pedley et al. is also completely different from the present invention because primarily liquid

nitrogen is used. If Argon were also used it would be clear that liquid Argon would be used.

Liquid nitrogen or argon however, undergoes an explosive expansion from liquid gas to gas due to the high bath temperature. This transformation leads to a very strong uplift of the gases, which is comparable to a fire, via which due to the rising movement of the gas draw in the surrounding air from the sides.

Since it is desired in Pedley to produce a protective layer by evaporating zinc the strong flow or gas movement is very desirable. Also, this results in evaporating zinc, which is exactly the opposite objective of the presently claimed invention.

A combination of argon, propane and butane provides an economical gas mixture that counters gas turbulence, and therewith suppresses zinc evaporation due, on the one hand, to a lack of flow and, on the other hand, to high density.

It is further noteworthy that argon has a low density and thus the requirement of Masaaki for a density of more than 2g/l indicates that Masaaki does not teach the present invention.

The mixture of propane and/or butane with argon provides results that are unexpected when considering the characteristics and qualities of the gases alone.

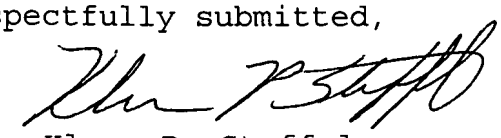
Thus, it is submitted that the combination of references relied upon by the Examiner does not teach or suggest the presently claimed invention.

In view of these considerations it is respectfully submitted that the rejection of claim 1 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By 

Klaus P. Stoffel
Reg. No. 31,668
For: Friedrich Kueffner
Reg. No. 29,482
317 Madison Avenue, Suite 910
New York, New York 10017
(212) 986-3114

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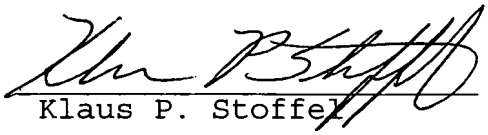
By: 
Klaus P. Stoffel

Date: July 6, 2009